

REMARKS

Claims 41 and 43 were objected because of informalities. Claims 21 to 30 and 36 to 45 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite. Claims 21, 23 to 30, 36 to 39, 42 and 45 were rejected under 35 U.S.C. 102(b) as being anticipated by Bonesteel (U.S. Patent 5,458,314). Claims 21, 24, 29 to 32, 36 and 37 were rejected under 35 U.S.C. 102(b) as being anticipated by Laimbock (AT 005131 U1). Claims 31, 32, 34 and 35 were rejected under 35 U.S.C. 103(a) as being unpatentable over Bonesteel and Laimbock. Claims 31, 32, 34 and 35 were rejected under 35 U.S.C. 103(a) as being unpatentable over Bonesteel in view of Sternberg (U.S. Patent 4,513,701).

Claims 21, 26 to 28, 31, 36, 38, 41 and 43 have been amended. Support is found for example in the specification at paragraphs [0020] and [0026] to [0028] and in Figs. 1 to 3. Claims 23 to 25, 29 and 30 have been canceled without prejudice.

Reconsideration of the present application based on the following remarks is respectfully requested.

Examiner Interview Summary

Applicants' representative, Mr. Clint Mehall, Reg. No. 62,380, spoke with Examiner Walters on December 8, 2010 to discuss the current rejections and potential amendments to overcome the current rejections. Examiner Walters and Mr. Mehall discussed a few possibilities and Mr. Mehall agreed to email proposed amendments to Examiner Walters on December 13th for review by Examiner Walters and his supervisor. On December 13th, Mr. Mehall emailed proposed amendments to independent claims 21 and 31 to Examiner Walters. On December 14th Examiner Walters contacted Mr. Mehall and informed him that the proposed amendments would overcome the current rejections. Applicants' representatives thank Examiner Walters for his prompt responses and his courtesy while speaking with Mr. Mehall.

Claim Objections

Claims 41 and 43 were objected because of informalities. Claims 41 and 43 have been amended as suggested by Examiner Walters and thus withdrawal of the objections to claims 41 and 43 is respectfully requested.

Rejections under 35 U.S.C. 112, Second Paragraph

Claims 21 to 30 and 36 to 45 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite because “the transmission element” in claim 21 had an insufficient antecedent basis and because “essentially completely” in claim 38 was unclear. Claims 21 and 38 have been amended accordingly and thus withdrawal of the rejection under 35 U.S.C. 112, second paragraph, of claims 21 to 30 and 36 to 45 is respectfully requested.

Rejections under 35 U.S.C. 102(b) and 103(a)

Claims 21, 23 to 30, 36 to 39, 42 and 45 were rejected under 35 U.S.C. 102(b) as being anticipated by Bonesteel (U.S. Patent 5,458,314). Claims 21, 24, 29 to 32, 36 and 37 were rejected under 35 U.S.C. 102(b) as being anticipated by Laimbock (AT 005131 U1). Claims 31, 32, 34 and 35 were rejected under 35 U.S.C. 103(a) as being unpatentable over Bonesteel and Laimbock. Claims 31, 32, 34 and 35 were rejected under 35 U.S.C. 103(a) as being unpatentable over Bonesteel in view of Sternberg (U.S. Patent 4,513,701).

Independent Claim 21

Independent claim 21, as amended, recites “[a] method for manufacturing a lightweight valve with a valve stem, a hollow valve cone and a valve disk closing the valve cone, the method comprising:

producing a first one-piece component forming the valve disk with a force transmission element by casting, forming and/or a powder metallurgy method, the force transmission element including a first end integrally connected to a center of the valve disk and a second end defining a stop surface;

producing a second one-piece component forming the valve stem and the valve cone, the second one-piece component having an inner wall defining a hollow space within the valve stem and the valve cone, the valve stem including an annular shoulder formed by a width increase of the hollow space into the inner wall; and

joining the first and second components together by placing the force transmission element into the hollow space, bringing the stop surface of the force transmission element to bear against the annular shoulder and connecting the first and second components by at least one of a material, non-positive and positive connection.”

Claim 21 has been amended in accordance with the proposed amendment emailed to Examiner Walters on December 13, 2010. As acknowledged by Examiner Walters, neither Bonesteel nor Laimbock discloses “the valve stem including an annular shoulder formed by a width increase of the hollow space into the inner wall” and “joining the first and second components together by placing the force transmission element into the hollow space, bringing the stop surface of the force transmission element to bear against the annular shoulder” as now recited in claim 21.

Based on the foregoing, withdrawal of the rejection under 35 U.S.C. 102(b) of claim 21 and its dependent claims is respectfully requested.

Independent Claim 31

Claim 31, as amended, recites “[a] method for manufacturing a lightweight valve with a valve stem, a hollow valve cone and a valve disk closing the valve cone, the valve stem being provided with a hollow space at an end facing the valve disk, the valve disk also having a force transmission element extending through the hollow valve cone into the stem hollow space, the method comprising:

producing a first one-piece component forming the valve disk with the force transmission element by casting, forming and/or a powder metallurgy method, the force transmission element including a first end integrally connected to a center of the valve disk and a second end including a bearing surface having a conical shape;

producing a second one-piece component forming the valve stem and the valve cone, the second one-piece component having an inner wall defining a hollow space within the valve stem and the valve cone, the inner wall increasing in width as the second one-piece component extends away from the valve cone to the valve stem such that a portion of the inner wall of the valve stem form a countersurface having a conical shape; and

joining the first and second components together by placing the force transmission element into the hollow space, bringing the bearing surface of the force transmission element to bear against the countersurface and connecting the first and second components by at least one of a material, non-positive and positive connection.”

Claim 31 has been amended in accordance with the proposed amendment emailed to Examiner Walters on December 13, 2010. As acknowledged by Examiner Walters, none of Bonesteel, Laimbock or Sternberg, alone or in combination, discloses or makes obvious “the force transmission element including a first end integrally connected to a center of the valve disk and a second end including a bearing surface having a conical shape,” “the inner wall increasing in width as the second one-piece component extends away from the valve cone to the valve stem such that a portion of the inner wall of the valve stem form a countersurface having a conical shape” and “joining the first and second components together by placing the force transmission element into the hollow space, bringing the bearing surface of the force transmission element to bear against the countersurface” as now recited in claim 31.

Based on the foregoing, withdrawal of the rejection under 35 U.S.C. 103(a) of claim 31 and its dependent claims is respectfully requested.

CONCLUSION

The present application is respectfully submitted as being in condition for allowance and applicants respectfully request such action.

Respectfully submitted,

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